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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,132	10/14/2005	Raymond Hesline	HESL0101 PUSA	1661
97039 Heslin Pty Ltd. 1/23 Monterey Road Bilgola, 2107 AUSTRALIA	7590 11/24/2010		<div>EXAMINER</div> <div>CHAPEL, DEREK S</div>	
			<div>ART UNIT</div> <div>2872</div>	<div>PAPER NUMBER</div>
			<div>MAIL DATE</div> <div>11/24/2010</div>	<div>DELIVERY MODE</div> <div>PAPER</div>

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/553,132  
Filing Date: October 14, 2005  
Appellant(s): HESLINE, RAYMOND

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Raymond Hesline  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 10/17/2010 appealing from the Office action mailed January 19, 2010 (1/19/2010).

**(1) Real Party in Interest**

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The following is a list of claims that are rejected and pending in the application:

Claims 13-20 are pending and stand finally rejected.

Claims 1-12 are canceled.

Claims 13-20 are appealed.

**(4) Status of Amendments After Final**

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

**(5) Summary of Claimed Subject Matter**

The examiner has no comment on the summary of claimed subject matter contained in the brief.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being

maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

**(7) Claims Appendix**

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

**(8) Evidence Relied Upon**

2003/0113055 A1	Zhao et al.	6-2003
2003/0020989 A1	Liu et al.	1-2003
2003/0147136 A1	Pan et al.	8-2003
5,864,428	Hesline	1-1999

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 13-20 are rejected under 35 U.S.C. 103(a). The rejections are set forth in the prior Office Action mailed 1/19/2010, and copied *infra*.

Claims 13-16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhao et al., U.S. Patent Application Publication 2003/0113055 A1, of record (hereafter Zhao) in view of Hesline, U.S. Patent Number 5,864,428, of record (hereafter Hesline).

As to claims 13 and 14, Zhao discloses an optical device (see at least figure 2) comprising a first birefringent prism (see at least figure 2, element 12; it is noted that

since the "beam displacer/combiner" (12) splits the light based on the polarization states it must be birefringent) for dividing an optical input beam into polarized beams (see at least figure 2, element 12), a second birefringent prism (see at least figure 2, element 13; it is noted that since the "beam displacer/combiner" (13) splits the light based on the polarization states it must be birefringent) for combining polarized beams into an output beam (see at least figure 2, element 13), and a polarization changer disposed between said first birefringent prism and said second birefringent prism (see at least figure 2, elements 14, 15, 16 or 17), further comprising a third birefringent prism (see at least figure 2, element 20; it is noted that since the "polarization walk-off crystal" (20) splits the light based on the polarization states it must be birefringent) disposed between said polarization changer and said second birefringent prism (see at least figure 2, elements 14, 16, 20 and 13).

Zhao does not specifically disclose that each of the first, second and third birefringent prisms are combinations of birefringent prisms with parallel optic axes wherein each said combination of birefringent prisms has oblique input and output faces.

However, Hesline teaches using a combination of birefringent prisms, with parallel optic axes wherein the combination of birefringent prisms has oblique input and output faces, to split an input beam into two parallel output beams (see at least figure 4, elements 31 and 35 as well as column 3, line 46 through column 4, line 6 of Hesline; it is noted that the birefringent prisms of Hesline are reciprocal and therefore could be used in reverse to combine two parallel input beams into one output beam).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical device of Zhao to include the teachings of Hesline so that each of the first, second and third birefringent prisms are replaced with first, second and third combinations of birefringent prisms with parallel optic axes wherein each said combination of birefringent prisms has oblique input and output faces, for the purpose of conserving the amount of birefringent material used in the optical device, as taught by Hesline (see at least column 1, lines 56-67 and column 2, lines 7-17 of Hesline).

As to claim 15, Zhao in view of Hesline discloses that the prisms of at least one combination of birefringent prisms are arranged about at least one reflector or refractor (see at least figure 2 of Zhao, first and second combinations of birefringent prisms 12 and 13 arranged about element 19).

As to claim 16, Zhao in view of Hesline discloses that the prisms of at least one combination of birefringent prisms are arranged about a polarization changer (see at least figure 2 of Zhao, first and second combinations of birefringent prisms 12 and 13 arranged about elements 14, 16, 17 and 15).

As to claim 20, Zhao in view of Hesline discloses that said device is an optical switch (see at least the title and abstract of Zhao), wherein light entering a first port of said device exits through a second port of said device or through a third port of said device (see at least paragraphs [0012], [0021], [0023] and [0031] of Zhao) as determined by a switching means (see at least figure 2, elements 16 and 17 of Zhao), wherein at least one polarization changer of said device is a reciprocal polarization

changer (see at least figure 2, elements 14 and 15 as well as paragraph [0041] of Zhao).

Claims 13, 15-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al., U.S. Patent Application Publication Number 2003/0020989 A1, of record (hereafter Liu) in view of Hesline, U.S. Patent Number 5,864,428, of record (hereafter Hesline).

As to claim 13, Liu discloses an optical device (see at least figure 14) comprising a first birefringent prism (see at least figure 14, element 1402a) for dividing an optical input beam into polarized beams (see at least figure 14, element 1402a), a second birefringent prism (see at least figure 14, element 1402b) for combining polarized beams into an output beam (see at least figure 14, element 1402b), and a polarization changer disposed between said first birefringent prism and said second birefringent prism (see at least figure 14, elements 1415a and 1415b).

Liu does not specifically disclose that each of the first and second birefringent prisms are combinations of birefringent prisms with parallel optic axes wherein each said combination of birefringent prisms has oblique input and output faces.

However, Hesline teaches using a combination of birefringent prisms, with parallel optic axes wherein the combination of birefringent prisms has oblique input and output faces, to split an input beam into two parallel output beams (see at least figure 4, elements 31 and 35 as well as column 3, line 46 through column 4, line 6 of Hesline; it

is noted that the birefringent prisms of Hesline are reciprocal and therefore could be used in reverse to combine two parallel input beams into one output beam).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical device of Liu to include the teachings of Hesline so that each of the first and second birefringent prisms are replaced with first and second combinations of birefringent prisms with parallel optic axes wherein each said combination of birefringent prisms has oblique input and output faces, for the purpose of conserving the amount of birefringent material used in the optical device, as taught by Hesline (see at least column 1, lines 56-67 and column 2, lines 7-17 of Hesline).

As to claim 15, Liu in view of Hesline discloses that the prisms of at least one combination of birefringent prisms are arranged about at least one reflector or refractor (see at least figure 14 of Liu, first and second combinations of birefringent prisms 1402a and 1402b arranged about at least element 1430; it is noted that element 1430 is optically between 1402a and 1402b).

As to claim 16, Liu in view of Hesline discloses that the prisms of at least one combination of birefringent prisms are arranged about a polarization changer (see at least figure 14 of Liu, first and second combinations of birefringent prisms 1402a and 1402b arranged about elements 1415a and 1415b).

As to claim 18, Liu in view of Hesline discloses that said device is an optical attenuator (see at least paragraphs [0031] and [0139]-[0141] of Liu), wherein light entering a first port of said device exits through a second port of said device with an



intensity as determined by an intensity varying means (see at least paragraphs [0031] and [0139]-[0141] of Liu), wherein at least one polarization changer of said device is a reciprocal polarization changer (see at least figure 14, elements 1415a and 1415b).

Claims 13, 16-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pan et al., U.S. Patent Application Publication Number 2003/0147136 A1, of record (hereafter Pan) in view of Hesline, U.S. Patent Number 5,864,428, of record (hereafter Hesline).

As to claim 13, Pan discloses an optical device (see at least figure 1A) comprising a first birefringent prism (see at least figure 1A, element 110 as well as paragraphs [0031]-[0033] and [0047]) for dividing an optical input beam into polarized beams (see at least figures 1A, 1B and 1C, element 110 as well as paragraphs [0031]-[0033] and [0047]), a second birefringent prism (see at least figure 1A, element 170 as well as paragraphs [0031]-[0033] and [0047]) for combining polarized beams into an output beam (see at least figures 1A, 1B and 1C, element 170 as well as paragraphs [0031]-[0033] and [0047]), and a polarization changer disposed between said first birefringent prism and said second birefringent prism (see at least figure 1A, elements 120, 130, 150 and 160).

Pan does not specifically disclose that each of the first and second birefringent prisms are combinations of birefringent prisms with parallel optic axes wherein each said combination of birefringent prisms has oblique input and output faces.

However, Hesline teaches using a combination of birefringent prisms, with parallel optic axes wherein the combination of birefringent prisms has oblique input and output faces, to split an input beam into two parallel output beams (see at least figure 4, elements 31 and 35 as well as column 3, line 46 through column 4, line 6 of Hesline; it is noted that the birefringent prisms of Hesline are reciprocal and therefore could be used in reverse to combine two parallel input beams into one output beam).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical device of Pan to include the teachings of Hesline so that each of the first and second birefringent prisms are replaced with first and second combinations of birefringent prisms with parallel optic axes wherein each said combination of birefringent prisms has oblique input and output faces, for the purpose of conserving the amount of birefringent material used in the optical device, as taught by Hesline (see at least column 1, lines 56-67 and column 2, lines 7-17 of Hesline).

As to claim 16, Pan in view of Hesline discloses that the prisms of at least one combination of birefringent prisms are arranged about a polarization changer (see at least figure 1A of Pan, first and second combinations of birefringent prisms 110 and 170 arranged about elements 120, 130, 150 and 160).

As to claim 17, Pan in view of Hesline discloses that said device is an optical isolator (see at least paragraphs [0003] and [0005] of Pan), wherein light entering a first port of said device exits through a second port of said device, wherein light entering said second port does not exit through said first port (see at least paragraphs [0003],

[0005] and [0032] of Pan), wherein at least one polarization changer of said device is a nonreciprocal polarization changer (see at least figure 1A, elements 120 and 160 as well as paragraph [0031] of Pan).

As to claim 19, Pan in view of Hesline discloses that said device is an optical circulator (see at least the title and abstract of Pan), wherein light entering a first port of said device exits through a second port of said device, wherein light entering said second port exits through third port of said device (see at least paragraph [0032] of Pan), wherein at least one polarization changer of said device is a nonreciprocal polarization changer (see at least figure 1A, elements 120 and 160 as well as paragraph [0031] of Pan).

#### **(10) Response to Argument**

The Appellant's arguments and remarks filed 10/17/2010 in response to the final rejections, mailed 1/19/2010, have been fully considered, however they are not found persuasive.

With respect to Appellant's argument that Hesline, U.S. Patent Number 5,864,428 (hereafter Hesline) cannot be used against the applicant because it is the applicant's own work (See at least Pages 3-6 of Appellant's brief filed 10/17/2010), this argument is not persuasive.

As was first explained to the Appellant in the Final Office action mailed 1/19/2010, Hesline qualifies as prior art under 35 U.S.C. 102(b) and therefore is a statutory bar under 35 U.S.C. 102(b) and thus is eligible for use in rejections under 35 U.S.C. 103(a). As shown by the quotations of the appropriate paragraphs of 35 U.S.C.

102 set forth below, a patent eligible for use under 102(b) may be by anyone (including the inventor).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

**A person shall be entitled to a patent unless –**

**(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.**

Now, it seems that the Appellant is under the impression that since Hesline was not used to reject the claims under 35 U.S.C. 102, because Hesline does not by itself disclose all of the claimed limitations, and was instead used to reject the claims under 35 U.S.C. 103, 35 U.S.C. 102 cannot be applied to determine if Hesline qualifies as prior art. This is not correct.

As set forth in at least the Advisory Office Action mailed 2/16/2010, 35 USC 102(b) shows that a reference (in this case the Hesline patent) that "was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States" is eligible as prior art even if it is the Appellant's own work.

Further, as set forth in at least the Advisory Office Actions mailed 3/26/2010 and 4/9/2010, MPEP 2141.01 shows that a reference used in an obviousness rejection (35 U.S.C. 103(a)) is eligible as prior art even if it is the Appellant's own work as long as it meets the date requirements for 35 U.S.C. 102(b). This is regardless of the fact that the

reference may not entirely read on all the claim limitations (anticipated) to be used as a rejection under 35 U.S.C. 102. See specifically MPEP 2141.01:

**"A 35 U.S.C. 103 rejection is based on 35 U.S.C. 102(a), 102(b), 102(e), etc. depending on the type of prior art reference used and its publication or issue date. For instance, an obviousness rejection over a U.S. patent which was issued more than 1 year before the filing date of the application is said to be a statutory bar just as if it anticipated the claims under 35 U.S.C. 102(b). Analogously, an obviousness rejection based on a publication which would be applied under 102(a) if it anticipated the claims can be overcome by swearing behind the publication date of the reference by filing an affidavit or declaration under 37 CFR 1.131. For an overview of what constitutes prior art under 35 U.S.C. 102, see MPEP § 901 - § 901.06(d) and § 2121 - § 2129."**  
**[Emphasis added.]**

Finally, it is acknowledged that the Hesline reference was cited under 35 U.S.C. 103(a). However, the date requirements governing 35 U.S.C. 103(a) are found in 35 U.S.C. 102. Since Hesline (U.S. Patent 5,864,428 issued 1/26/1999) was issued more than one year before the effective filing date of the present application (national application (371) of PCT/AU04/00508 filed 4/16/2004), Hesline became a statutory bar (date) and cannot be excluded as commonly owned or invented, and therefore is eligible as prior art. In view of the above, the rejections of claims 13-20 are hereby maintained.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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